

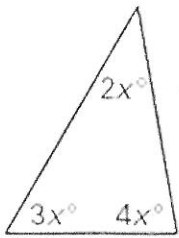
# Homework 49-FORM A

## Classifying Triangles

Name: \_\_\_\_\_

Period: \_\_\_\_\_ Date: \_\_\_\_\_

1) Solve for x.



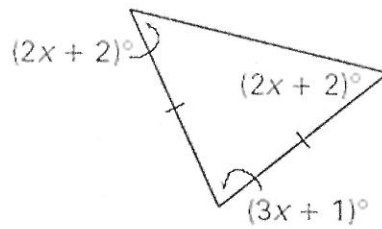
$$2x + 3x + 4x = 180$$

$$x = \underline{\hspace{2cm}}$$

Classified by sides \_\_\_\_\_

Classified by angles \_\_\_\_\_

2) Solve for x.



COMBINE LIKE TERMS!

$$(2x + 2) + (3x + 1) + (2x + 2) = 180$$

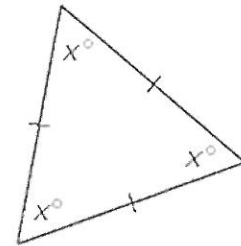
$$\bigcirc + \square = 180$$

$$x = \underline{\hspace{2cm}}$$

Classified by sides \_\_\_\_\_

Classified by angles \_\_\_\_\_

3) Solve for x.



$$x + x + x = 180$$

$$x = \underline{\hspace{2cm}}$$

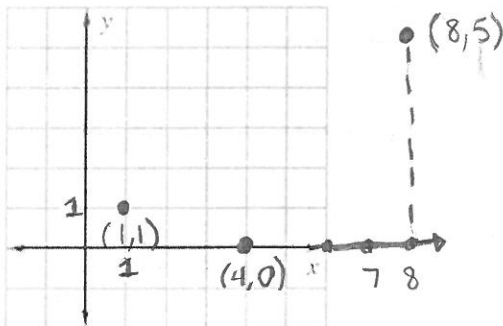
Classified by sides \_\_\_\_\_

Classified by angles \_\_\_\_\_

4) Graph the triangle according to the given vertices.

DISTANCE FORMULA \*  $\sqrt{(x^2 - x')^2 + (y^2 - y')^2}$

A(1, 1), B(4, 0), C(8, 5)



$$AB = \sqrt{(4-1)^2 + (0-1)^2}$$

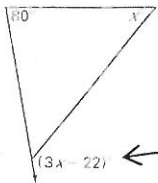
$$BC = \sqrt{(8-4)^2 + (5-0)^2}$$

$$AC = \sqrt{(8-1)^2 + (5-1)^2}$$

Classified by sides \_\_\_\_\_ Right triangle? \_\_\_\_\_

5) Solve for x. Then find the measure of the indicated angle.

$$3x - 22 = 80 + x$$



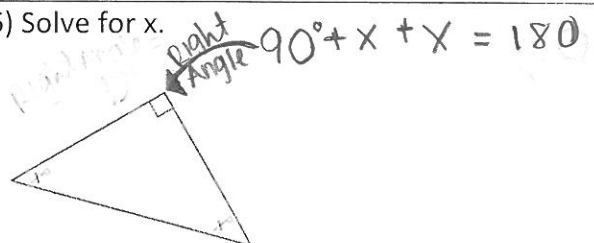
INSERT "x" VALUE  $x = \underline{\hspace{2cm}}$

$3(\underline{\hspace{2cm}}) - 22 = \underline{\hspace{2cm}}^\circ$  FINAL ANSWER

Which theorem is used to solve this problem?

- a) Triangle Sum Theorem
- b) Exterior Angle Theorem

6) Solve for x.



$$x = \underline{\hspace{2cm}}$$

Which theorem is used to solve this problem?

- a) Triangle Sum Theorem
- b) Exterior Angle Theorem

# Mixed Review

1) What values of  $x$  would make the following equation true?  $A=6$

$ax^2 + bx + c = 0$   $B=53$   
 $6x^2 + 53x + 40 = 0$   $C=40$   

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-53 \pm \sqrt{(53)^2 - 4(6)(40)}}{2(6)}$$

2) Simplify:

$\frac{2u^3v^{-2}}{2u^{-4}v^2} = \frac{2u^3v^2}{2u^4v^2} = \frac{u^3}{u^4} = \frac{1}{u}$

3) What are the values that would make the following expression undefined? (UNDEFINED =  $\emptyset$  in the DENOMINATOR)

$\frac{x}{x^2 - 9x + 8}$  ← FACTOR TO SOLVE  
 $(x - 8)(x - 1)$   
 $x = 0$   $x = 0$   
 $x = \underline{\hspace{1cm}}, \underline{\hspace{1cm}}$

4) What is the distance between the following two points?  $\sqrt{(x^2 - x')^2 + (y^2 - y')^2}$

$(1, 2), (-4, -1)$   
 $(x', y') (x^2, y^2)$   
 $\sqrt{(-4-1)^2 + (-1-2)^2}$

5) An equation of a line in the  $(x, y)$  coordinate plane is given as:

$-6x + 4 = 4y$   $y = \underline{\hspace{1cm}}$   $y = mx + b$  (slope) (y-intercept)

a) What is the slope of this line?

$y = \underline{\hspace{1cm}}$  ← Reduces to...  
 $m = \underline{\hspace{1cm}}$

b) At what point  $(x, y)$  will this line cross the x-axis?

$-6x + 4 = 4(0)$

$(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

c) At what point  $(x, y)$  will this line cross the y-axis?

y-intercept =  $(\underline{\hspace{1cm}}, \underline{\hspace{1cm}})$

6) The points  $(4, 6)$  and  $(9, 10)$  are on line  $a$ . Find the equation for the line that is parallel to line  $a$  and passes through point  $(0, 4)$ .

a)  $y = \frac{5}{4}x + 4$   $\left(\frac{y^2 - y'}{x^2 - x'}\right)$  SLOPE INTERCEPT FORMULA

b)  $y = -\frac{5}{4}x - 4$   $\frac{10-6}{9-4} = \underline{\hspace{1cm}} = m$

c)  $y = \frac{5}{4}x + 4$

d)  $y = \frac{4}{5}x + 4$

e)  $y = \frac{4}{5}x - 4$

$y = mx + b$   
 $4 = \underline{\hspace{1cm}}(0) + b$  (SOLVE FOR "b")  
 $\underline{\hspace{1cm}} = b$

7) Simplify:  $\sqrt{\frac{5x^2}{48}}$

$\sqrt{\frac{5x^2}{48}} = \frac{\sqrt{5x^2}}{\sqrt{48}} = \frac{\sqrt{5}x}{4\sqrt{3}} = \frac{\sqrt{15}x}{12}$

8) If  $2\sqrt{8x} + 2 = 10$ , then  $x = ?$

$2\sqrt{8x} + 2 = 10$   
 $\underline{\hspace{1cm}} - 2 \quad \underline{\hspace{1cm}} - 2$   
 $2\sqrt{8x} = 8$   
 $\sqrt{8x} = 4$   
 $8x = 16$   
 $x = 2$

$x = \underline{\hspace{1cm}}$